REMARKS/ARGUMENTS

In view of the foregoing amendments and the
following remarks, the applicants respectfully submit
that the pending claims are not rendered obvious under 35
U.S.C. § 103. Accordingly, it is believed that this
application is in condition for allowance. **If, however,
the Examiner believes that there are any unresolved
issues, or believes that some or all of the claims are
not in condition for allowance, the applicants
respectfully request that the Examiner contact the
undersigned to schedule a telephone Examiner Interview
before any further actions on the merits**.

The applicants will now address each of the issues
raised in the outstanding Office Action.

Rejections under 35 U.S.C. § 103

Claims 1-32 stand rejected under 35 U.S.C. § 103(a)
as being unpatentable over U.S. Patent Publication No.
2002/0038308 ("the Cappi publication") in view of U.S.
Patent No. 6,256,630 ("the Gilai patent"). The
applicants respectfully request that the Examiner
reconsider and withdraw this ground of rejection in view
of the following.

These claims are not properly rejected under 35
U.S.C. § 103 because the Cappi publication does not teach
various features that the Examiner contends it teaches,
and because one skilled in the art would not have been
motivated to combine and modify the Cappi publication and
the Gilai patent as proposed by the Examiner. Before the

16

impropriety of the rejection is discussed, the Cappi publication and the Gilai patent are first introduced.

The Cappi publication addresses the problem of integrating and searching data across two or more database systems, particularly if each has a different database management system. (See, e.g., paragraphs 0003-0007.) The solution proposed by the Cappi publication requires two stages – an integration stage and a retrieval stage. (See, e.g., paragraph 0039.) Each of these stages is introduce below.

Briefly stated, the integration stage builds various indexes (called "dictionaries") that are used to relate different data elements (DEs) in different databases. The parts of the system and the content of the dictionaries is described generally in paragraphs 0034-0086. The integration stage is described generally in paragraphs 0087-0126. The integration stage accounts for two potential types of ambiguity. In a first type of ambiguity, DEs with the same name can mean different things. (See, e.g., paragraph 0100.) A simple example is the word "bill." Bill can mean a person's given name, or it can mean an invoice. In a second type of ambiguity, DEs with different names can mean the same thing. (See, e.g., paragraph 0101.) A simple example is "sales" and "revenues." Note that these ambiguities do not arise out of a limitation of a user input device. Rather, these ambiguities arise from the fact that disparate databases may use different words or labels to mean the same thing, or may use the same word or label to mean different things.

The retrieval stage is generally described in paragraphs 0127-0148. A query is entered and is used to

17

determine whether or not there are any matching DEs in
the DE dictionary (DED). If so, mapped database names
(which identify the databases that the matched data
element can be found in) are retrieved. (See, e.g.,
paragraph 0142.) Note that various data structures
populated during the integration stage permit one term to
be used to search similar DEs having different names in
various disparate databases. If the query doesn't match
a DE in the DED, it is determined whether or not there
are any matching ambiguous DEs (ADEs) in the ADE
dictionary (ADED). (See, e.g., paragraph 0143.) If not,
any error message is returned. If, however, there is an
matching ADE in the ADED, the mapped database names are
retrieved. (See, e.g., paragraph 0144.) The query is
then used to search the identified databases. (See,
e.g., paragraphs 0145-0147.)

As can be appreciated from the foregoing, the Cappi
publication is concerned with ambiguities arising from
the fact that different databases may use different words
or labels to mean the same thing, or the same word or
label to mean different things. It builds data
structures during the integration stage to account for
these ambiguities. Importantly, the Cappi publication
does not address a user query consisting of ambiguous
information components. Thus, the Cappi publication
addresses a very different problem than that addressed by
the present invention (and a very different problem than
that addressed by the Gilai patent, discussed below).

The Gilai patent, like the present invention, can
handle an ambiguous user input or query, but does so in a
different way than the present invention. The Gilai
patent can accept an ambiguous input such as keystrokes,

18

speech, oral characters and oral phonemes. A spell guess operation 30 is used to generate a set of one or more possible strings and associated probabilities using the ambiguous input. However, the spell guess operation 30 does not use mapping information that maps ambiguous information components to less ambiguous information components. Instead, the Gilai patent uses a recursive string lengthening processes to generate strings, using trigrams included in the string and occurrence frequency information of such trigrams. (See, e.g., Figure 2 and column 11, line 54 through column 12, line 64.)

Having introduced the Cappi publication and the Gilai patent, at least some of the patentable features of the present invention are addressed below.

Independent claims 1, 21, 24, 26 and 29-32 are not rendered obvious by the Cappi publication and the Gilai patent because these patents, either taken alone or in combination, neither teach nor suggest using a mapping information (that maps ambiguous information components (e.g., numbers) to less ambiguous information components (e.g., letters)) to translate the sequence of ambiguous information components into one or more corresponding sequences of less ambiguous information components. The Examiner contends that the Cappi publication teaches (i) obtaining mapping information that maps ambiguous information components to less ambiguous information components, citing paragraphs 0037, 0046, 0051, 0057 and 0062, and (ii) using the mapping information to translate the sequence of ambiguous information components into one or more corresponding sequences of less ambiguous information components, citing paragraphs 0062, 0064 and

0069. (See Paper No. 4, pages 3 and 4.) This is not an accurate characterization of the Cappi publication.

As introduced above, the Cappi publication does discuss data elements (DEs) in a dictionary (DED), as well as ambiguous data elements (ADEs) in another dictionary (ADED). The applicants agree that the ADE includes a mapped DE name, as illustrated as 650 of Figure 4. However, **a DE in the DED is <u>not</u> more or less ambiguous than its corresponding ADE in the ADED**. Consider for example, the data elements "sales" and "revenues." **One term is no more ambiguous than the other. However, one will be a data element DE of the DED, while the other will be an element of the ADED. The result has nothing to do with the relative ambiguity of DE and ADE, but instead depends on which term was used first during an integration stage.** If "sales" is introduced first during the integration stage, it be a DE of the DED and the later introduced "revenue" will be an ADE of the ADED. If, on the other hand, "revenue" is introduced first during the integration stage, it will be a DE of the DED and the later introduced "sales" will be an ADE of the ADED.

Accordingly, independent claims 1, 21, 24, 26 and 29-32 are not rendered obvious by the Cappi publication and the Gilai patent for at least the foregoing reason. Since claims 2-15 include the features of claim 1 by virtue of their dependency, since claims 22 and 23 depend from claim 21, since claim 25 depends from claim 24 and since claims 27 and 28 depend from claim 26, these claims are similarly not rendered obvious by the Cappi publication and the Gilai patent.

Moreover, none the claims are rendered obvious by the Cappi publication and the Gilai patent because there is no suggestion to modify and combine the references as proposed by the Examiner. The Examiner concedes that the Cappi publication does not teach receiving a sequence of ambiguous information components from a user. To compensate for this admitted deficiency of the Cappi publication, the Examiner relies on the Gilai patent. Specifically, the Examiner contends that the Gilai patent teaches receiving a sequence of ambiguous information components from a user and concludes that it would have been obvious to provide this in the Cappi publication because receiving a sequence of ambiguous information components from a user would enable the user to enter ad-hoc and ambiguous, and possibly erroneous information and still receive best matching results. (See, e.g., Paper No. 4, pages 4 and 5.)

However, the Examiner is glossing over the fact that ambiguities are already handled by the Cappi publication, albeit in a very different way. That is, if a query data element (QDE) entered does not match an DEs in the DED, the ADEs of the ADED are checked. (See, e.g., Figure 18.) That is, the Cappi publication creates various data structures and relationships between these data structures to handle potential ambiguities in a query data element. The query data element need not be changed. On the other hand, the Gilai patent generates alternative queries (e.g., KATHERINE, CATHERINE, CATHYRINE, KATHERYN, KATEHRINE, KATHRYN, CATHRYN) from an ambiguous query (e.g., 228437463) without altering database related structures (e.g., 70 and 72 of Figure 1). In view of the foregoing, one skilled in the art

would not have been motivated to combine the Cappi publication and Gilai patent as proposed by the Examiner. Accordingly, the claims are not rendered obvious by these references for at least this additional reason.

Further, with regard to the dependent claims, the Examiner is further modifying the Cappi publication using the Gilai patent without stating why he believes that such further modifications would have been obvious to one of ordinary skill in the art. The applicants respectfully note that suggestions are used to support combining reference **teachings**, not the references in their entirety. That is, a purported suggestion to combine **one teaching** from the Gilai patent with the system of the Cappi patent does not support combining **any and all teachings** the Gilai patent with the system of the Cappi patent. Accordingly, if the Examiner maintains any such grounds of rejections, the applicants respectfully submit that he should provide a suggestion in the art for each and every modification proposed.

New claims

New claims 33-35 further distinguish the invention over the cited references.

Amendments to the Specification

The specification has been amended to correct a number of minor errors, and to remove underlining from section headings to comply with 37 C.F.R. § 1.77(b).
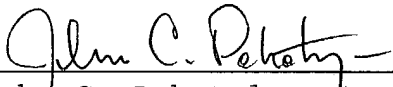
New Figure

New Figure 6 is filed herewith. Since subject
matter contained in this figure is expressly supported by
the text in page 9, line 14 through page 10, line 27, no
new matter is added.

Conclusion

In view of the foregoing amendments and remarks, the
applicants respectfully submit that the pending claims
are in condition for allowance. Accordingly, the
applicants request that the Examiner pass this
application to issue.

Respectfully submitted,

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23